

# ULTRA PRO ULTRASOUND TABLE

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## INSTALLATION/ OPERATION MANUAL

058-720  
058-725



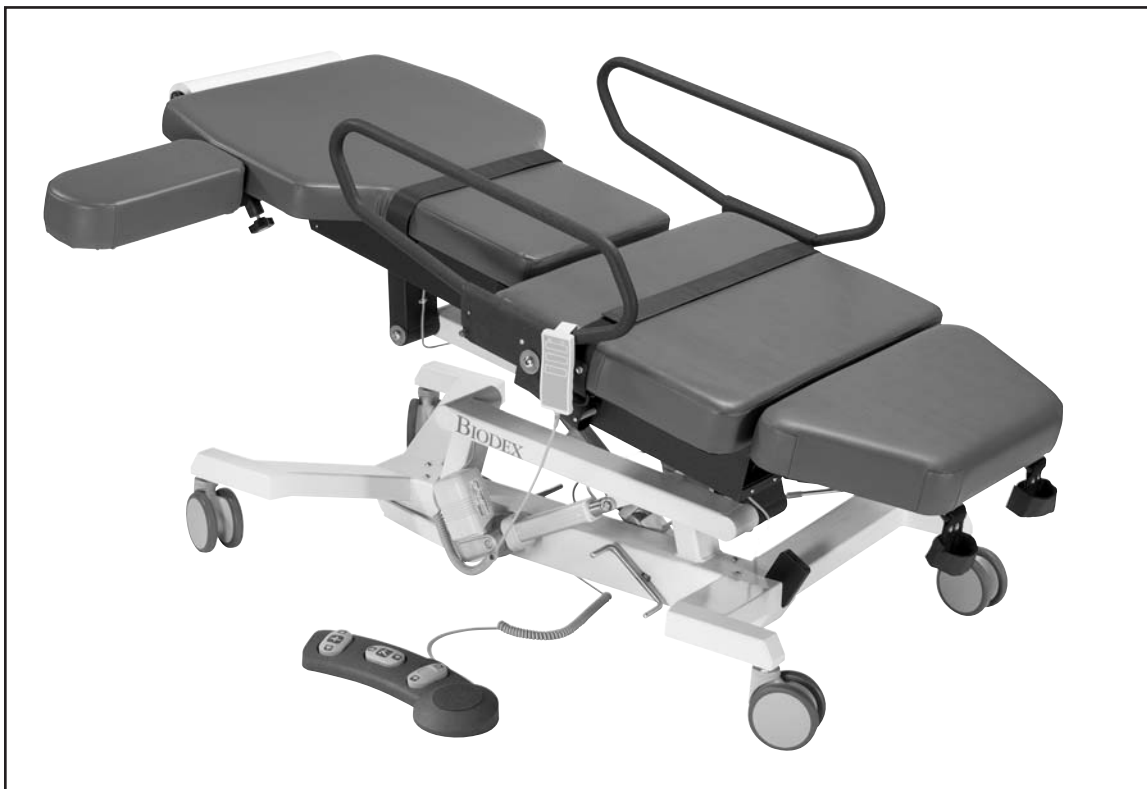
# BIODEX

Biodex Medical Systems, Inc.

20 Ramsay Road, Shirley, New York, 11967-4704, Tel: 800-224-6339 (In NY and Int'l, call 631-924-9000), Fax: 631-924-9241, Email: sales@biodex.com, www.biodex.com

# ULTRA PRO ULTRASOUND TABLE

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**This manual covers installation and operation procedures for the following products:**

- #058-720      Ultra Pro Ultrasound Table, 115 VAC
- #058-725      Ultra Pro Ultrasound Table, 230 VAC

Symbol	Meaning
	<i>CAUTION: Refer to instruction manual before operating or servicing system.</i>
	<i>ATTENTION: Se référer à la notice d'utilisation avant d'utiliser l'équipement.</i>
	<i>CAUTION: Disconnect power from source before removing panel or covers. Reliable grounding achieved only by connecting this unit to an equivalent marked hospital only or hospital receptacle.</i>
	<i>ATTENTION: Déconnecter la prise secteur avant d'ouvrir le coffret. Une terre fiable ne peut être obtenue que par la connexion à une prise secteur de qualité hospitalière.</i>

## INTRODUCTION

The Ultra Pro Ultrasound Table is a dedicated table for all general ultrasound procedures including OB/GYN. Choose from an assortment of table options to customize the table to suit your department needs.

This extra-wide table features a 500-lb patient load capacity, contoured tabletop to maximize patient scanning, and a vast height range down to 23" to facilitate wheelchair transfers. The Ultra Pro also accommodates bariatric patients.

Ergonomically designed to suit both patient and sonographer, the table's height range allows seated or standing work positions. Pivoting side rails allow comfortable shoulder, arm and hand positions when scanning. There are no barriers between sonographer and patient, allowing correct scanning posture to prevent musculoskeletal injury. The open frame design allows sonographers to get closer to the patient for carotid imaging or long leg arterial scanning. The motorized Fowler back is infinitely adjustable up to 80° via the hand or optional foot controller.

For the patient, comfort is assured through lengthy procedures with an amply thick mattress and a multitude of comfort-driven design details. For example, the retractable stirrups pivot from side-to-side and can be used partially or fully extended while the foot cushion drops down to 40° for patients with circulatory issues and 80° for stirrup access. Biodex tables are so accommodating, they actually reduce the total amount of time required to get a quality image.

The Ultra Pro Ultrasound Table is equipped with a motor-controlled hand controller to actuate table positions, 2"- and 3"-thick table padding covered in easy-to-clean Naugahyde®, two patient restraining straps with Velcro® hook and loop fasteners, five-inch swivel casters and a central locking system, accessible from either side of the table, to secure table position.

Additional accessories are available, including foot controller, retractable stirrups, vascular scanning arm board, pivoting side rails, IV pole and paper dispenser.

## TABLE PARTS AND ADJUSTMENTS

(Refer to Figure 1.)

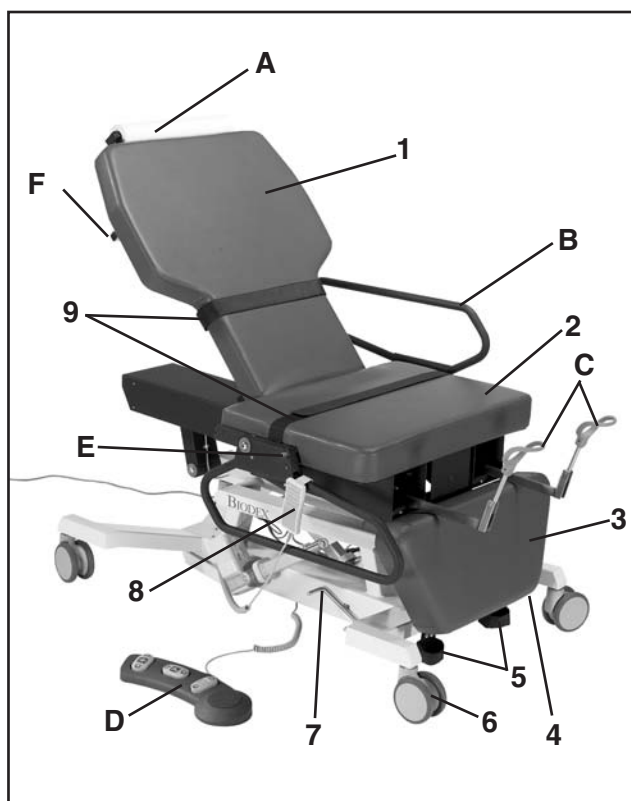


Figure 1. The Biodex Ultra Pro Ultrasound Table parts and adjustment include:

### Standard Parts and Adjustments:

1. Fowler Back
2. Seat Cushion
3. Foot Cushion
4. Foot Cushion Release Lever
5. Patient Ankle Restraints
6. 5" Swivel Casters
7. Central Locking System Lever
8. Hand-Held Controller
9. Patient Restraining Straps

### Optional Parts and Adjustments:

- A. Paper Dispenser (058-610)
- B. Pivoting Side Rails (058-631)
- C. Retractable Stirrups (058-651)
- D. Foot Controller (058-740)
- E. Side Rail Pull Pin
- F. Vascular Scanning Arm Board Receiving Tube
- G. Vascular Scanning Arm Board, not shown (058-735)
- H. IV Rod, not shown (058-656)



## GENERAL SAFETY CONSIDERATIONS

1. Ensure table is locked and the Fowler back is securely in position before patient transfer to and from the table or wheelchair.

*S'assurer que les roues sont verrouillées et que le dossier Fowler est fermement en position avant de transférer le patient entre la table et le fauteuil roulant.*

2. When positioning the patient on the tabletop, ensure the patient's hands, IV lines, etc., are not entrapped or caught by the moving table parts, or between the table and any other equipment.

*Lors du positionnement du patient sur la table, s'assurer que les mains du patient, les tubes de solution, etc. ne sont ni coincés, ni accrochés aux parties mobiles de la table, ni entre la table et tout autre appareil.*

3. Never leave the patient unattended on the table.

*Ne jamais laisser le patient sans surveillance sur la table.*

4. This table is designed to hold 500 lb maximum patient load. Exceeding this limit could cause damage to the table, possibly resulting in patient injury.

*La capacité maximale de la table est de 159 kg (500 lb.) Ne pas dépasser cette limite afin d'éviter d'endommager la table, ce qui pourrait causer des blessures au patient.*

5. The patient restraints are intended for use only as a means to limit patient movement during scanning. They are not intended to protect uncontrolled patients from hazards such as entrapment by moving equipment, or falling off the table.

*Les dispositifs de retenue n'ont pour seul but que de limiter les déplacements du patient durant le balayage. Ils n'ont pas pour but de protéger les patients sans contrôle des risques comme celui de se coincer contre un appareil en mouvement, ou de tomber de la table.*

6. Follow the general maintenance guidelines provided in this manual. Periodically inspect the table for proper operation and damage.

*Suivre les directives générales d'entretien fournies dans le présent manuel. Vérifier la table à intervalles réguliers, son bon fonctionnement et tout dommage.*

7. Remove from service and repair if any of the following conditions are discovered:

- Excessive play or looseness in any of the table motions.
- Any motions binding or difficult to move.
- Downward drifting of the table top.
- Damaged or loose casters or brake levers

*Retirer du service et réparer si l'on détecte l'une quelconque des conditions suivantes.*

- Jeu excessif ou desserrage dans l'un quelconque des déplacements de la table.
- Toute gêne ou difficulté de mouvement.
- Abaissement inopiné de la table.
- Roulettes ou coussins de stabilisation des pattes endommagés ou desserrés.
- Tous signes de dommages à la structure de support de la table, par exemple les fissures, les pièces pliées ou desserrées, notamment dans le secteur de la charnière pour le dossier.

## MOVING THE TABLE



**CAUTION:** Remove patient before moving table.



**ATTENTION:** Retirer le patient avant de déplacer la table.

This table can be easily moved across smooth surfaces. Once positioned, engage the central locking system lever to ensure stability.

To move the table, release the central locking system by pressing with your foot on the short end of the central locking lever. All four wheels release at the same time.

To lock the table in position, press down on the long end of the central locking lever.

## HEIGHT ADJUSTMENT

Table height is conveniently adjusted with the hand-held controller or optional foot controller. D-ring holders are provided on the end of the Velcro® straps at each side of the table frame to hold the hand-held controller when it is not in use. The hand-held controller can be moved to either side of the table. A power light on the controller indicates that power from the control box is ON.

- To raise the table: Press and hold down the table up button.
- To lower the table: Press and hold down the table down button.

**NOTE:** The control box, located underneath the tabletop, is labeled with controller specific information.

## TRENDELENBURG/REVERSE TRENDELENBURG POSITIONING

The table can provide up to + or - 15 degrees Trendelenburg or Reverse Trendelenburg positioning by raising or lowering either the head end or foot end of the table with the hand-held controller or optional foot controller.

- For Trendelenburg Positioning: Press and hold down the foot-end up button on the hand-held controller. This will simultaneously raise the foot end and lower the head end of the table. Release the button when the desired angle is achieved.
- For Reverse Trendelenburg Positioning: Press and hold down the head-end up button on the hand-held controller. This will simultaneously lower the foot end and raise the head end of the table. Release the button when desired angle is achieved.

## FOWLER BACK ADJUSTMENT

The motorized Fowler back is infinitely adjustable to 80° via the hand-held or optional foot controller.

## LEVELING THE TABLE

The table has a self-leveling feature which can be used when the table is in a Trendelenburg or Reverse Trendelenburg position.

- To level the table, press and hold both Fowler back buttons on the hand-held controller.

## CHAIR POSITIONING

The foot cushion can be lowered and the Fowler back raised to provide chair positioning.

To lower the foot cushion, grasp the cushion at the end to provide support as it is lowered. Lift up on the cushion, then pull up on the foot cushion release lever (located under the foot cushion). While supporting the cushion, allow it to gently lower to the desired position, either half-way down or completely down, and release the foot cushion release handle. To raise the foot cushion, simply lift up on the cushion and raise either half-way up or completely up.

**NOTE:** You must support the foot cushion as it is lowered, even if there is no patient on the table. Keeping one hand on the cushion and the other on the release handle also ensures that your fingers cannot be pinched while the cushions are being lowered.

## INSTALLING AND USING OPTIONAL ACCESSORIES

**NOTE:** The tools needed to install all table accessories are provided with the table. These include a 7/16" wrench, 9/16" wrench and a Phillips screwdriver.

### Foot Controller (058-740)

The foot controller uses three separate rocker style pedals to control tabletop height, Trendelenburg/Reverse Trendelenburg and Fowler back positioning.

**NOTE:** When the table is used in a wet environment, it is recommended that the foot controller be covered with a plastic bag and sealed as watertight as possible.

To install the foot controller:

1. Locate the foot control port on the frame underneath the seat cushion.
2. Insert the foot controller plug into the port (labeled "foot control") so that the plug key faces up and slides fully into the port slot. The foot controller should now be ready for use.

Using the foot controller:

To use the foot controller, simply press and hold down the appropriate rocker switch with your foot to adjust the table as desired. Releasing the rocker switch at any time immediately stops the actuated motion.



Figure 2: The foot controller can be used to adjust tabletop height, Trendelenburg/Reverse Trendelenburg positioning, and Fowler back positioning.



### Vascular Scanning Arm Board (058-735)

The Vascular Scanning Arm Board can be used to provide support to the patient's arm on either side of the table.

**NOTE:** An arm board receiving tube must be installed on both the left and right side of the table. One arm board and two receiving tubes are supplied.

To install the arm board:

1. Move the Fowler back to the fully raised position. Arm board screw holes (two on the left, two on the right) are located on the Fowler back support bar (on back of the Fowler back, approximately eight inches from the head end of the cushion).
2. Position the arm board receiving tube beneath the Fowler back support bar on the desired side. Ensure that the arm board receiving tube screw holes align with the screw holes on the Fowler back support. The long end of the arm board receiving tube faces out from the table cushion.
3. Insert a 1/4-20" screw into each hole, tightening each screw with the 7/16" wrench to secure the arm board receiving tube to the Fowler Back support bar. Repeat steps 1-3 to install the opposite arm board receiving tube.
4. Loosen the locking knob on the arm board and slide the arm board over the arm board receiving tube with the cushion facing up for the patient. Tighten the locking knob to secure. The arm board is now ready for use.

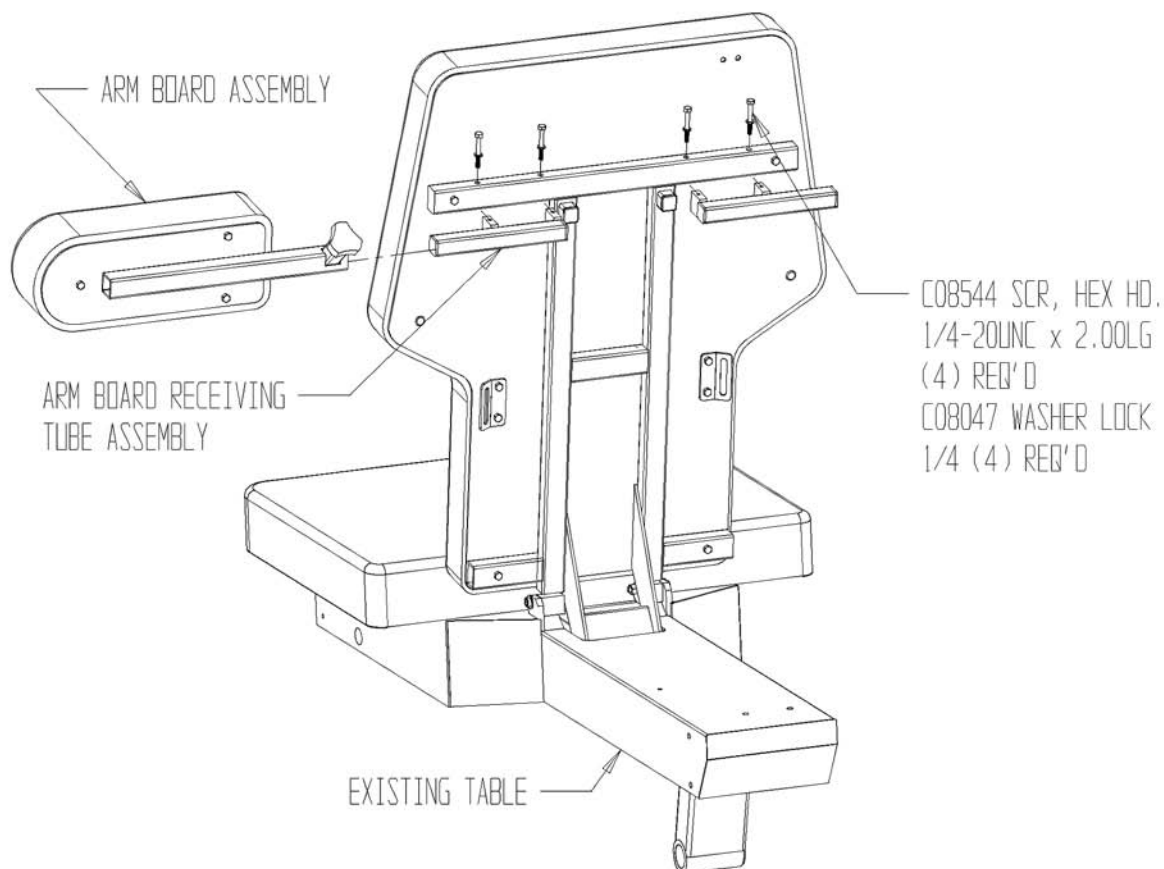


Figure 3. Installing the vascular scanning arm board.

### Retractable Stirrups (#058-651)

A set of sturdy Retractable Stirrups can be neatly concealed in the table frame beneath the abdominal (seat) cushion. The two stirrups are interchangeable and can be mounted in either stirrup housing.

To install the stirrups:

1. Fully lower the table's foot end cushion.
2. Remove the nut, two metal thrust washers and bearing from the screw that protrudes at the bottom of one of the stirrup braces. Leave the plastic washer on the screw.
3. Insert the stirrup (foot end facing out) into the appropriate side of the stirrup housing at the base of the abdominal cushion. Align the stirrup so that the stirrup screw drops down into the pre-drilled hole in the stirrup housing.
4. Place the thrust washers, bearing (between thrust washers) and nut onto the stirrup screw which now protrudes from the stirrup housing. Tighten the nut until snug (do not over-tighten).
5. Position the rubber friction plate behind the front face of the stirrup housing and then position the metal backing plate behind it. The rubber friction plate should extend 1/8-inch above the metal backing plate. Use the two 10-1/2" Phillips screws to secure and tighten the rubber friction plate and backing plate in place.
6. Repeat above procedure for opposite stirrup.

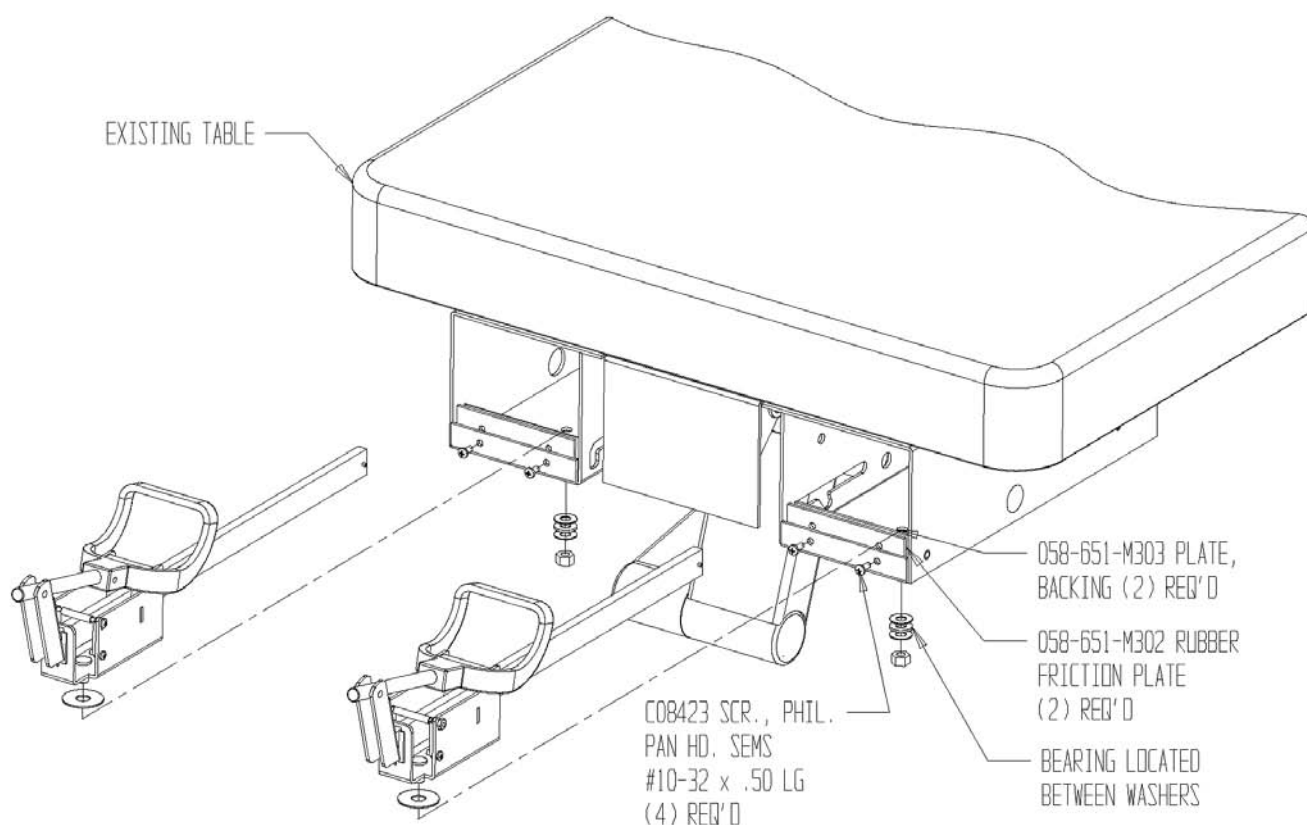
To access the stirrups:

1. Lower the foot end cushion.
2. Lift up slightly on the stirrups and then slide them fully out from the table frame. The stirrups can be used in various positions and do not have to be fully extended for use. The stirrups also pivot from side to side.
3. Unfold the stirrups' heel cups.

To retract the stirrups:

1. Fold the stirrups heel cups.
2. Lift up slightly on the stirrups and slide them fully back into the table frame.

**NOTE:** The stirrups must be fully retracted before raising the foot end cushion to avoid the stirrups damaging the cushion.



### Side Rails (#058-631)

The side rails can be installed on both sides of the table. Each rail pivots individually to assume either the raised or lowered position. Both a left side rail and a right side rail are supplied. They must be installed on the correct side of the table.

Installing the side rails:

1. Using a 7/16" wrench, remove the four 1/4-20" hex head screws from under the abdominal cushion (toward the rear of the cushion) on the side of the table to which the side rail will be installed.
2. Position the side rail support bracket against the bottom of the cushion so the four pre-drilled screw holes in the bracket align with the screw holes under the seat cushion. The side rail should face up with the short end of the rail closest to the foot end cushion.
3. Using a 7/16" wrench install the four screws removed in step 1 through the side rail support bracket. Tighten securely.

Using the side rails:

1. To raise either side rail lift up on the foot end of the rail and pivot the rail toward the head end of the table until it locks into place in the fully raised position.
2. To lower either side rail, pull the side rail pull pin toward the head end of the table to disengage the pin. Pivot the rail toward the foot end of the table until it assumes the fully lowered position.

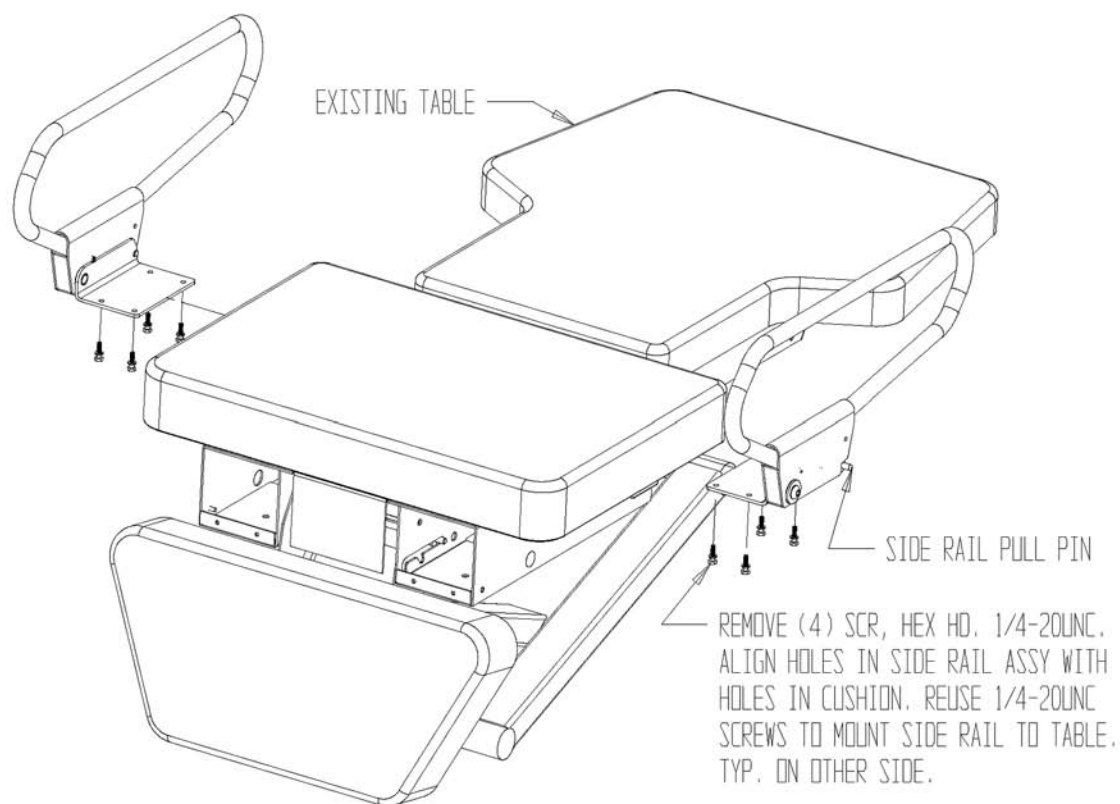


Figure 5. Installing the side rails.



The paper dispenser can be mounted on the head end of the table.

1. Raise completely the Fowler back section of the table.
2. Using a 7/16" wrench, remove the two 1/4-20" hex head screws from under one side of the head end of the Fowler back cushion.
3. Position the appropriate paper dispenser mounting bracket on the bottom of the Fowler back cushion so that the paper dispenser rod post faces up toward the outside top corner of the cushion. Ensure the pre-drilled screw holes align with the screw holes from step 2.
4. Using a 7/16" wrench, install the two 1/4-20" hex head screws removed in step 1 through the dispenser mounting bracket and tighten to secure the paper dispenser in place.
5. Repeat steps 1 – 4 for the opposite side.
6. Place a role of paper on the paper dispenser rod and install the rod between the brackets. Press in on either spring-loaded end of the paper dispenser bar in order to slide it into the brackets.
7. Pull the paper over the cushions.
8. Pull unused paper through the cutter strap mounts at the foot end of the table.
9. After use, cut the paper and dispose of used portions.



### I.V. Pole (058-656)

The I. V. Pole must be installed on the patient left side of the table.

Installing the I.V. Pole:

1. Using a 7/16" wrench, remove the two 1/4-20" hex head screws from the middle of the tabletop frame on the side of the table to which the side rail will be installed.
2. Position the I.V. Pole support bracket against the bottom of the cushion so the two pre-drilled screw holes in the bracket align with the screw holes on the tabletop frame. The I.V. Pole should face up and away from the head end of the table.
3. Using a 7/16" wrench, install the two screws removed in step 1 through the I.V. Pole mounting bracket. Tighten the screws to secure.

4. Insert the I.V. Pole into the I.V. Pole Mounting bracket. Ensure that the I.V. Pole passes through both the top and bottom holes in the mounting bracket to ensure I.V. Pole stability.

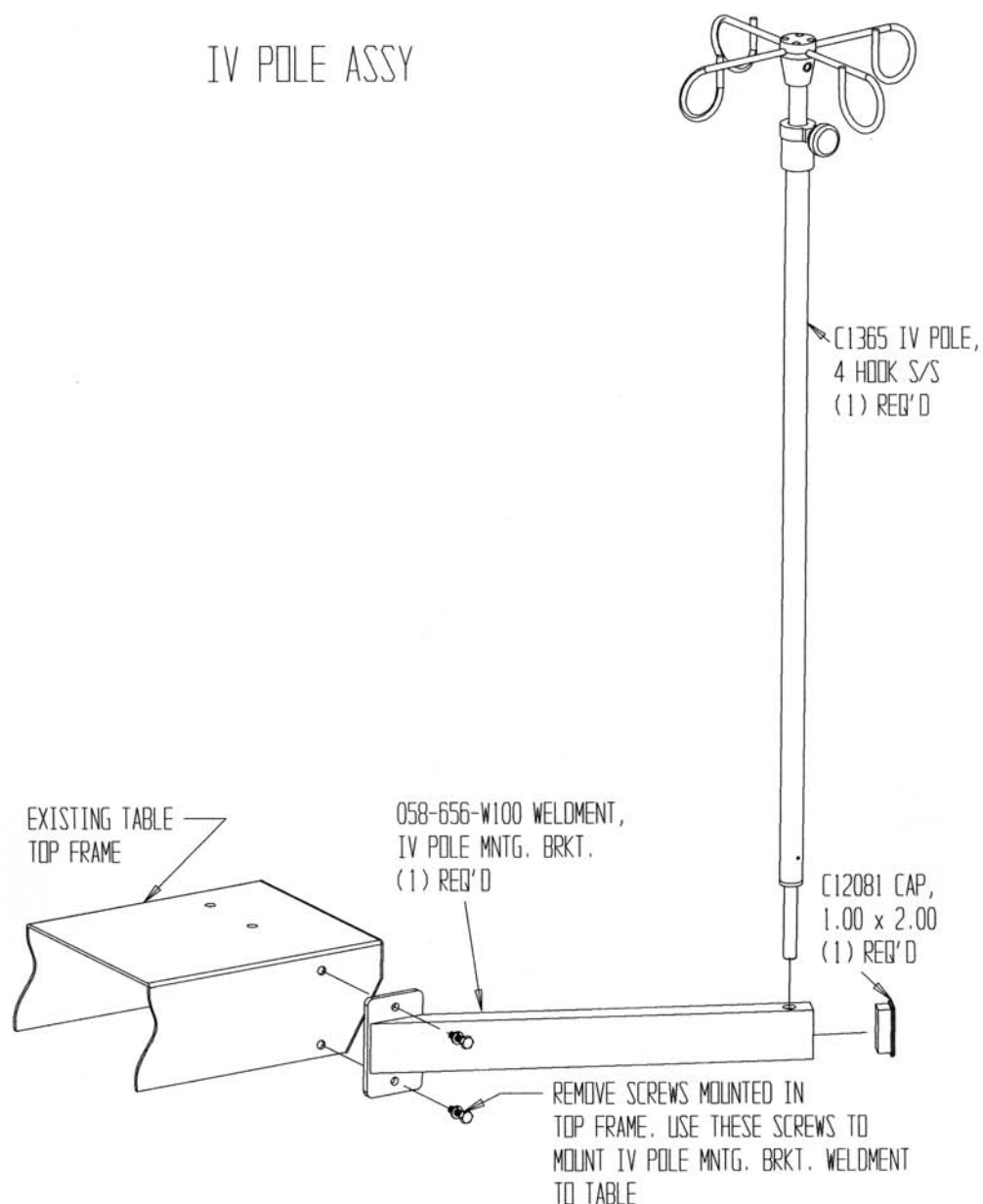


Figure 7. Installing the I.V. Pole.

## MAINTENANCE

1. As required, cleanse all exterior surfaces and tabletop pads with a mild detergent solution.
2. Keep wheel assemblies free of foreign materials and dirt accumulation.
3. Periodically inspect all welds.
4. Periodically check bolts on table, tighten if necessary.
5. Periodically inspect all strap holders. Any holder that feels loose should be removed and reattached after adding a spot of Loctite® Threadlocker (Blue #242) to the bolt threads. This should ensure that the bolt will not loosen again in the future.

## SPECIFICATIONS

**Dimensions:** 71" l x 30" w (180.3 x 76.2 cm); 35.50" w (90.2 cm) with side rails

**Drop-Down Leg Section:** 12.6" l (32 cm)

**Height Adjustable:** 23" to 39" (58.4 to 99 cm)

**Tabletop:** Three primary sections; torso section features sonographer and patient cutouts with Fowler back positioning; center section remains fixed and leg section drops down to 40° and 80° for stirrup access

**Cardiac Scanning Cutout:** with pivoting cushion that doubles as an armrest

**Adjustable Sonographer Cutout:** drops down or folds up for maximum access to the patient

**Mattress:** Torso section 2" (5 cm) thick, center and leg sections 3" (8 cm) thick; foam rubber pad covered with durable Naugahyde®

**Upholstery Color:** Graphite

### Motions:

**Height Adjustable:** 23" to 39" (58.4 to 99 cm)

**Trendelenburg:** 0° to ±15°

**Fowler Back:** 0° to 80° infinitely adjustable

### Controls:

**Hand Control:** Activates height, Trendelenburg motions, Fowler back and auto level motions

**Foot Control:** Activates height, Trendelenburg motions, and Fowler back

**Wheels:** 5" (12.7 cm) swivel casters; central floor locking system

**Patient Restraints:** Two body straps and one set of ankle straps

**Finish:** Powder coat

**Patient Capacity:** 500 lb (227 kg)

**Weight:** 350 lb (159 kg)

**Power:** 115 VAC or 230 VAC

**Warranty:** One year

**Certifications:** ETL and ETL® Listed to UL 60601-1 and CAN/CSA C22.2 No. 601.1-M90 and, EN 60601-1 standards

## OPTIONAL

058-740 Foot Controller

058-631 Side Rails, Pivoting

058-651 Stirrups, Retractable

058-735 Arm Board, Vascular Scanning

058-656 IV Pole

058-610 Dispenser, Paper,  
with Cutter Strap

## REPLACEMENT

056-612 Table Paper, Hygenic, 12 rolls  
18" w x 20' l (46 cm x 6 m)

**\*NOTE:** Options are installed by the customer.

Authorized European Community Representative:  
Prothia, Paris, France



## ELECTROMAGNETIC COMPATABILITY CHART

### Legend

- Pass
- x Fail
- q Not applicable
- No requirement

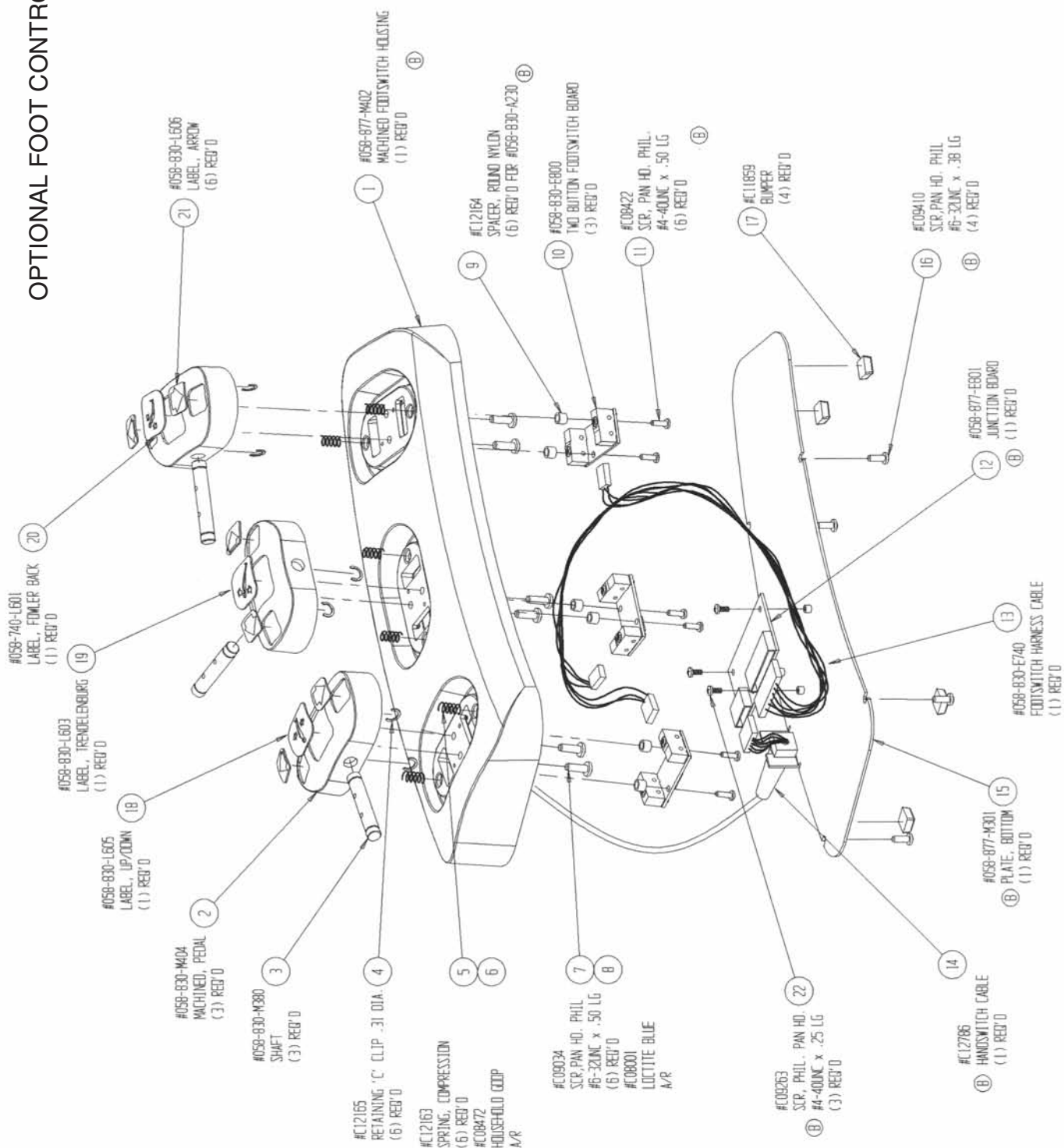
Test Type	Result		
	EN 61000-6-3	EN 61000-6-4	EN 60601-1-2 + EN 1970
<b>Emission</b>			
Mains terminal interference voltage	–	–	–
Interference Current	–	-	-
Radiated Electromagnetic field	–	–	–
Harmonic	–	-	–
Voltage Fluctuations	–	-	–
<b>Immunity</b>	EN 61000-6-1	EN 61000-6-2	EN 60601-1-2 + EN 1970
Immunity to electrostatic discharges	–	–	–
Immunity to electromagnetic fields	–	–	–
Immunity to fast electric transients	–	–	–
Immunity to surges	–	–	–
Immunity to conducted interference	–	–	–
Immunity to 50 Hz magnetic fields	–	–	–
Immunity to voltage variations and short interruptions	–	–	–
Variations of power frequency	–	–	–

Magnetic Corp. control box. / Montena EMC SA

Date: 10/10/05

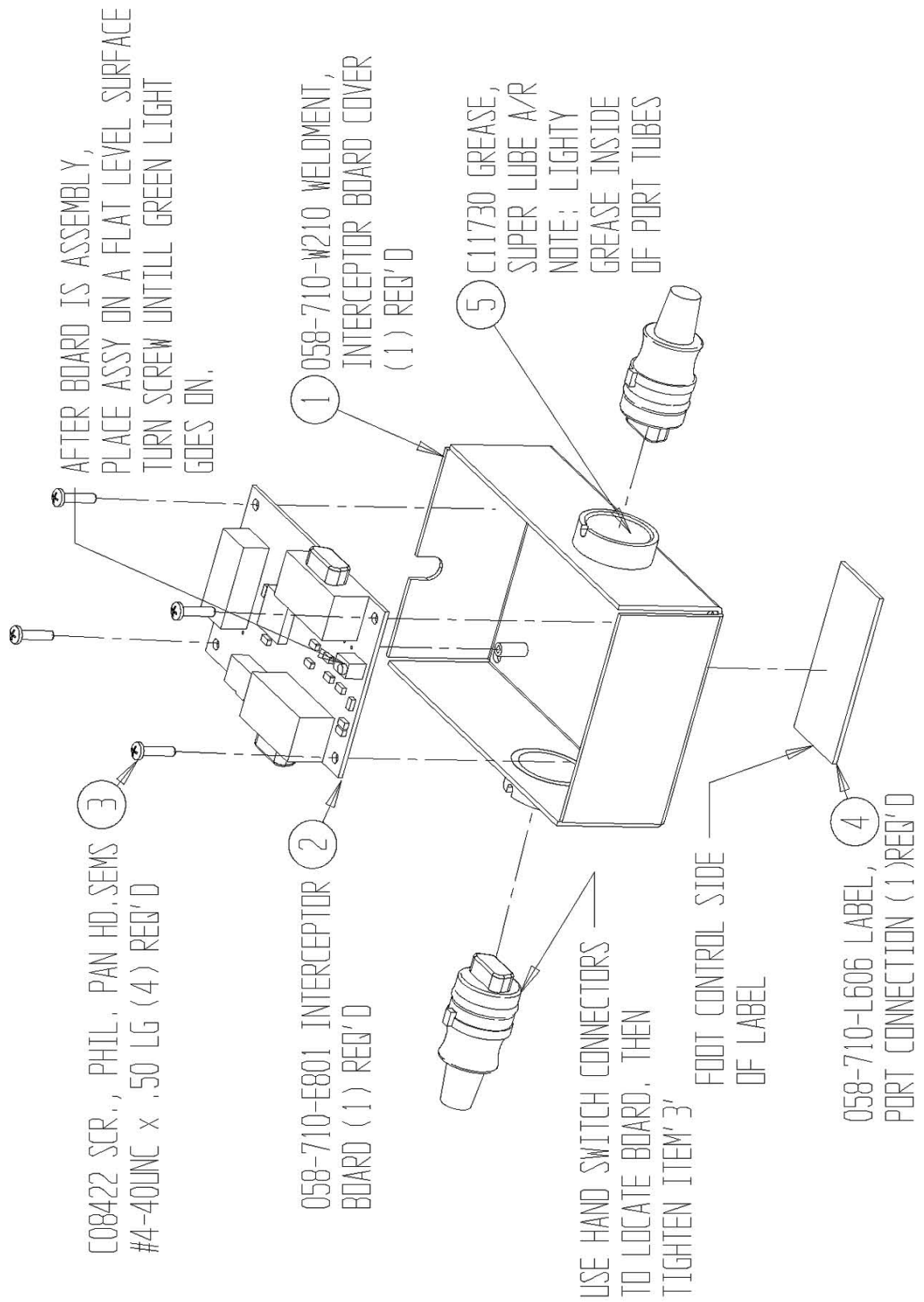
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# OPTIONAL FOOT CONTROLLER

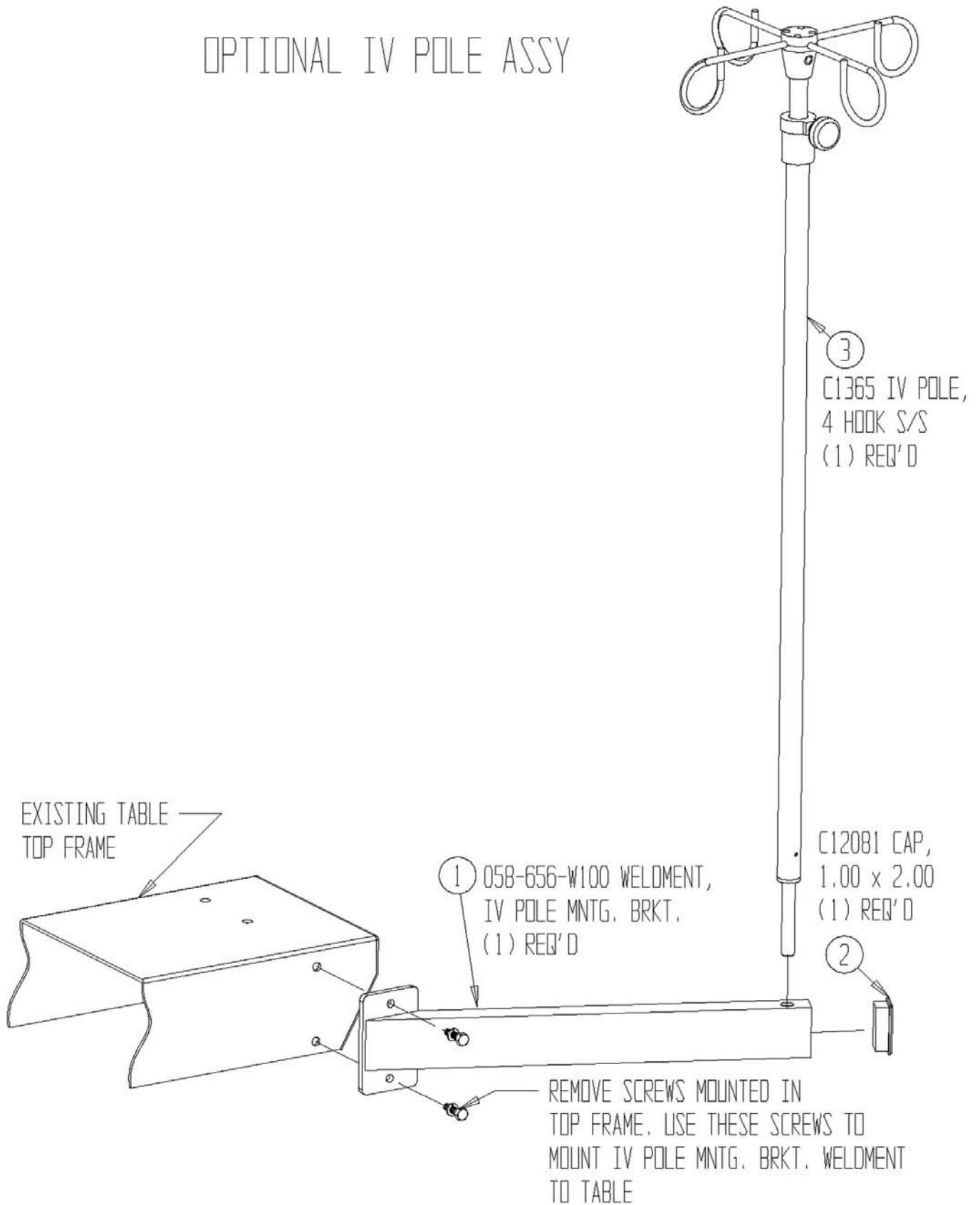




# INTERCEPTOR BOARD ASSY



## OPTIONAL IV POLE ASSY



058-710-M337 BRKT., CONDUIT (1) REQ'D  
 C12814 CONTROL BOX, BCU 120V (1) REQ'D  
 OR  
 C12845 CONTROL BOX, BCU 230V

THIS PORT TO BE CONNECTED TO  
 FOWLER BACK ACTUATOR

THIS PORT TO BE CONNECTED TO  
 LIFT ACTUATOR # 1

C12784 SCR, PHIL. FLAT HD.  
 M5 x 12MM LG (2) REQ'D  
 C08001 REF.

THIS PORT TO BE CONNECTED TO  
 LIFT ACTUATOR # 2

THIS PORT TO BE CONNECTED TO  
 INTERCEPTOR BOARD

C08423 SCR, PHIL. PAN HD. SEM  
 #10-32UNC x .50 LG (3) REQ'D

C09066 LABEL, TYPE  
 'B' EQUIP. (1) REQ'D

LABEL, ETL LISTED, UL 2601  
 #C10113 LOCATION, REF.

LABEL, DESCRIPTION/ MOD/ VOLTS  
 #C1620 LOCATION REF.

058-710-L607 LABEL, PLUG INTO  
 GROUNDED RECP. (1) REQ'D

C10980 REF.  
 C08001 REF.

C12781 REF.  
 C12782 REF.  
 C11730 REF.

C10286 REF.  
 C09406 REF.

C08698 SCR, PHIL. PAN HD.  
 #8-32UNC x .38 LG (2) REQ'D

C11853 SCR, PHIL. PAN HD.  
 #8-32UNC x 3.00 LG (2) REQ'D

950-000-L302 LABEL,  
 BIODEX (2) REQ'D

LIFT ACTUATOR # 1

058-710-L602 LABEL, FLOOR LOCK (2) REQ'D

LIFT ACTUATOR # 2

056-800-E717 BRAIDED GROUNDING STRAP (1) REQ'D

C12785 PLUG, RECTANGLE (4) REQ'D

C09086 PLUG, SQUARE (2) REQ'D

058-710-W180 WELDMENT, FOWLER BACK (1) REQ'D

C08500 REF.

C12784 NYLINER BRG.  
 TYPE 5 .38 ID  
 (2) REQ'D

C08425 REF.

C08369  
 CABLE TIE  
 (5) REQ'D

C08006 WASHER,  
 FLAT SAE .38  
 (2) REQ'D

C08006

C08040 SCR, SHOULDER  
 .38 DIA. x 2.0 LG (2) REQ'D

C12786 CABLE, HANDSWITCH  
 (1) REQ'D

058-710-A200 INTERCEPTOR  
 BOARD ASSY (1) REQ'D

C12788 SCR, PHIL. PAN HD.  
 #6-32UNC x 1.00 LG (4) REQ'D

C10829 CABLE RETAINING  
 LOOP (2) REQ'D

C08425 NUT, HEX KEPS  
 #10-32UNC (3) REQ'D

C10980 REF.  
 C08001 REF.

C12787 PLUG  
 HOLE (2) REQ'D

056-870-L602 LABEL,  
 500# WEIGHT  
 CAPACITY (2) REQ'D

058-710-L601 ECHO/ULTRA HAND  
 SWITCH OVERLAY (1) REQ'D

C12789 HANDSWITCH, 3 BUTTONS  
 EHA 33 (1) REQ'D

058-710-W150 WELDMENT,  
 UPPER FRAME (1) REQ'D

C12791 LOCKNUT, HEX HD.  
 ELASTIC 10MM (2) REQ'D

C12792 ACTUATOR, ECOMAG (1) REQ'D

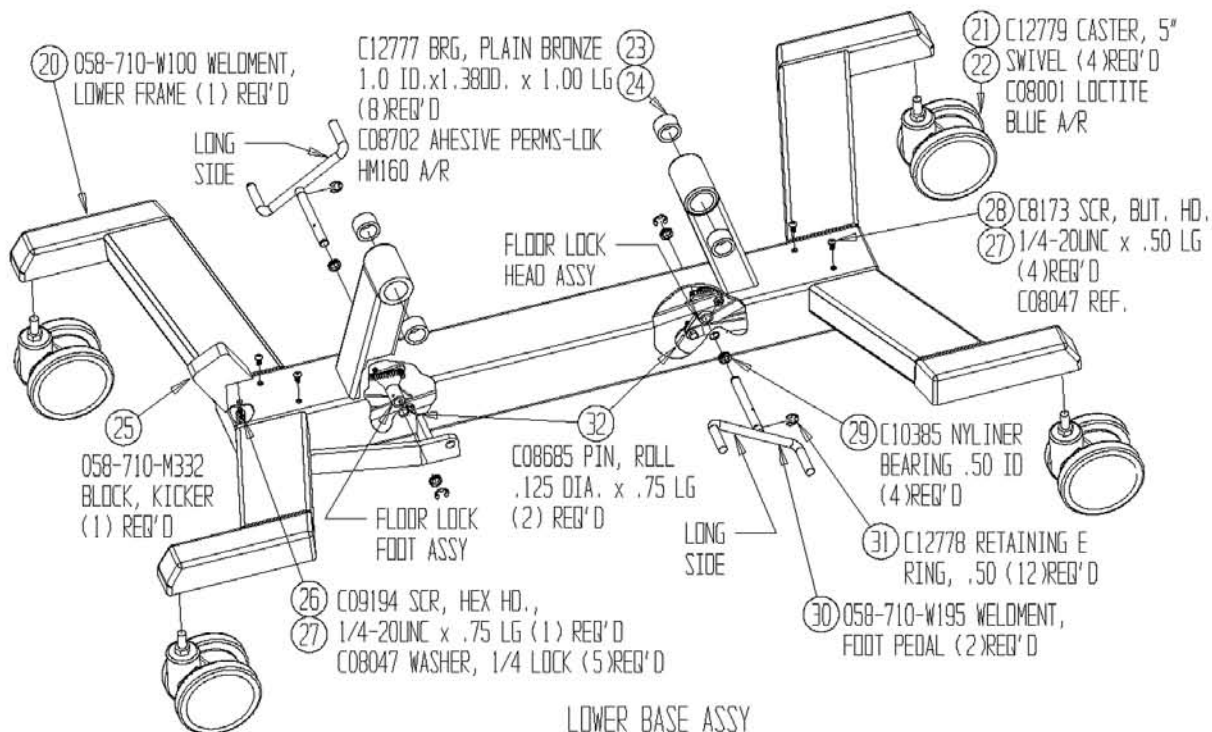
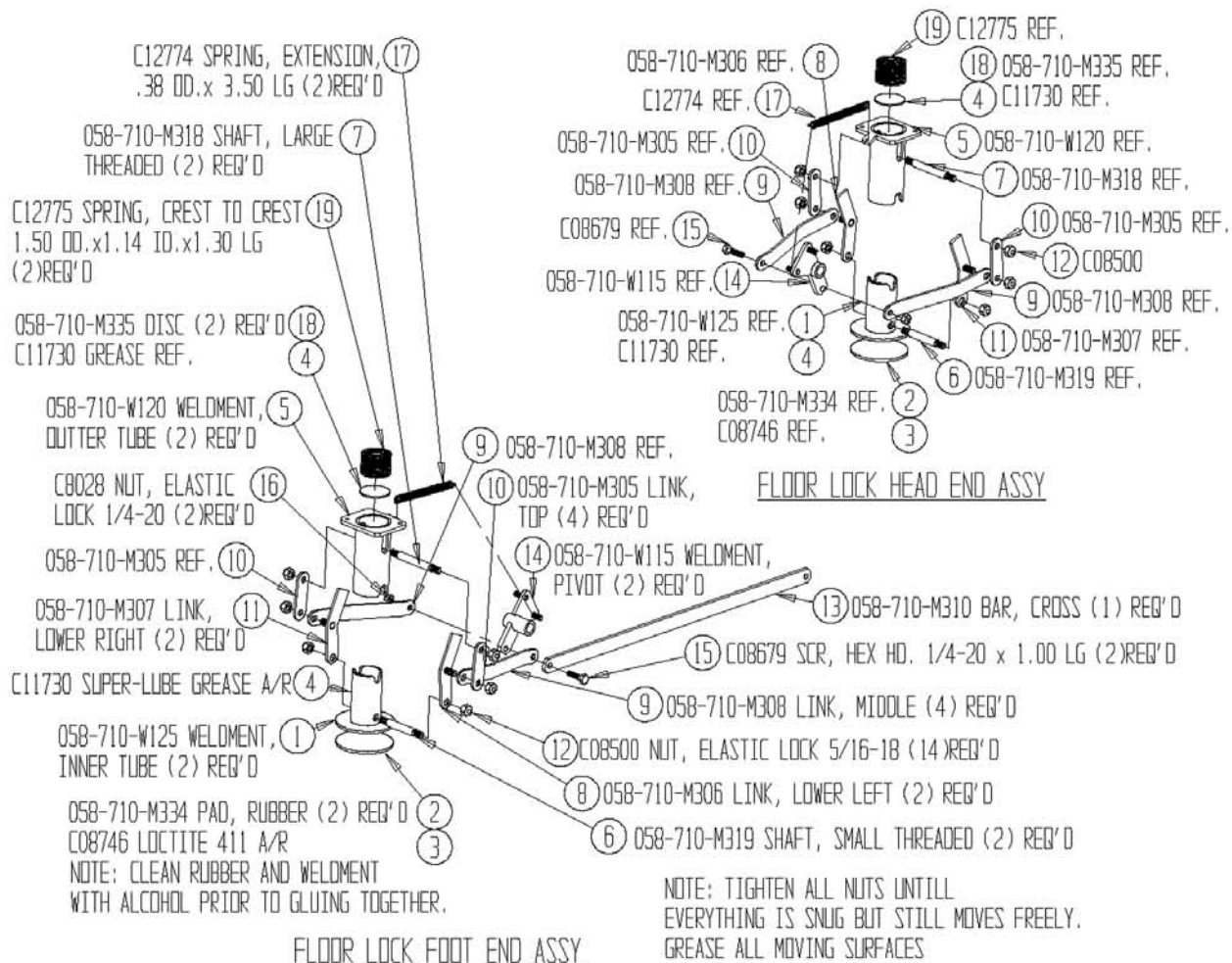
C12790 SHOULDER BOLT 12MM DIA.  
 x 25 MM LG (2) REQ'D

058-710-M304 SHAFT,  
 UPPER FRAME (1) REQ'D  
 C11730 GREASE REF.

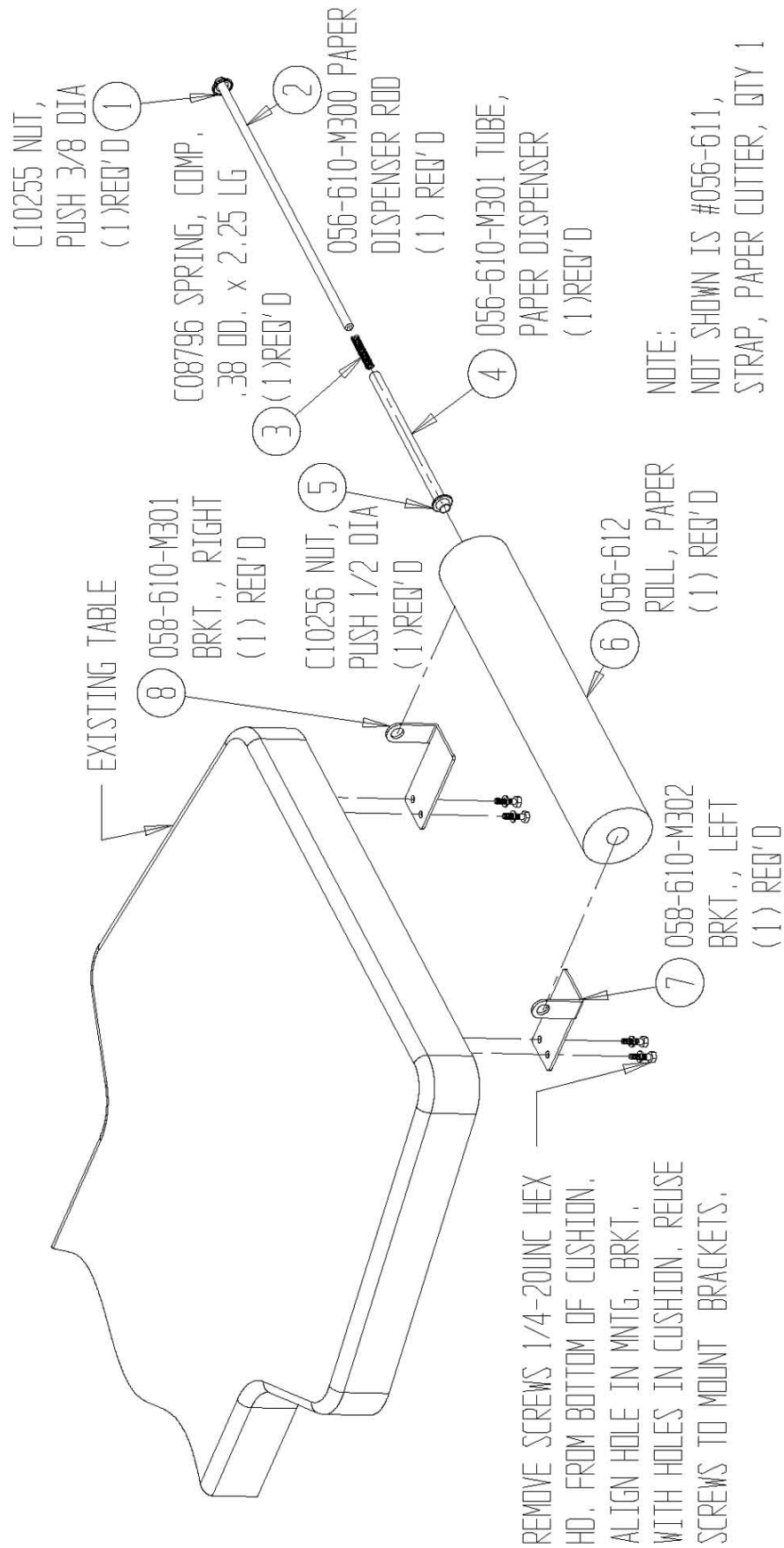
## LOWER BASE ASSEMBLY



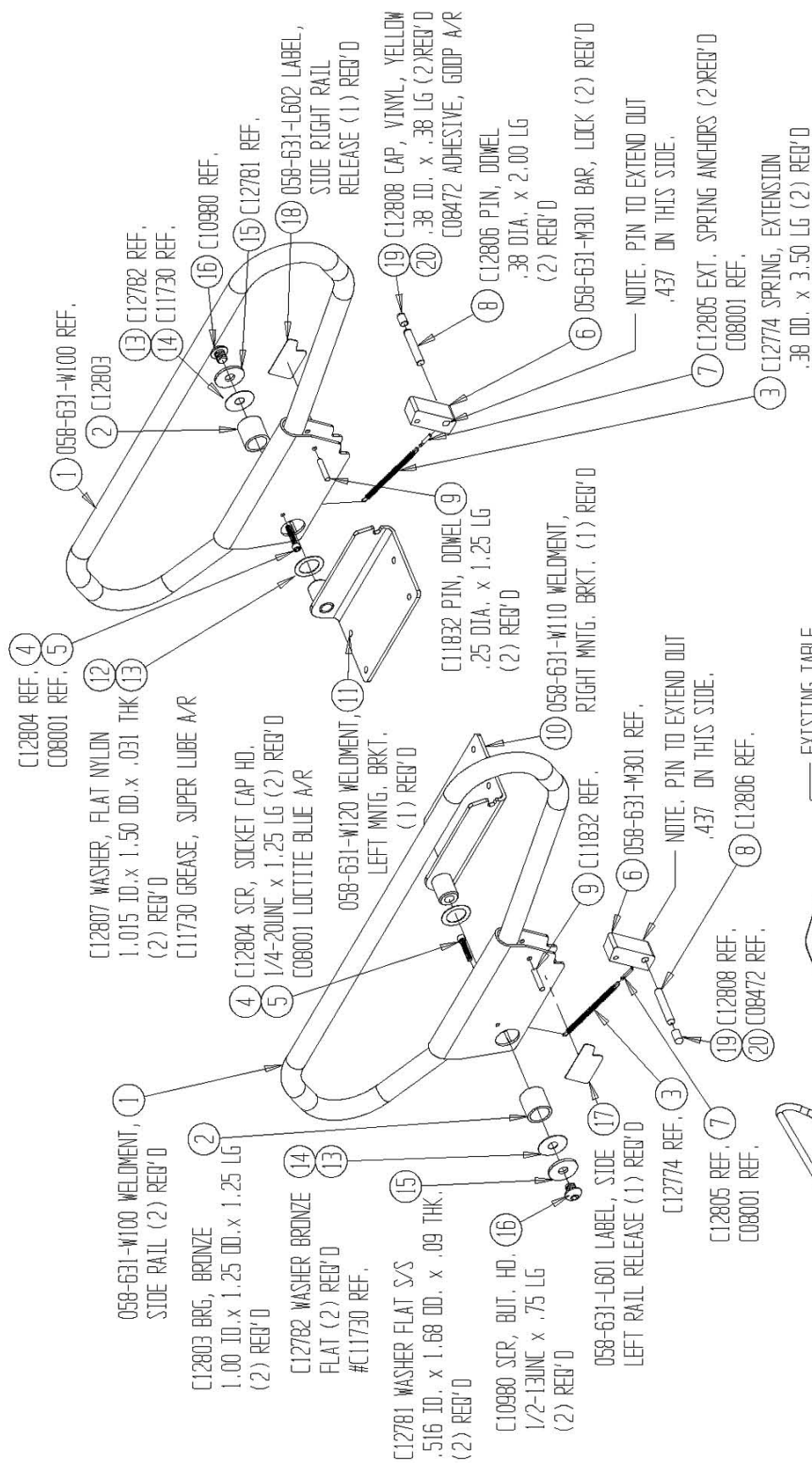
## LOWER BASE ASSEMBLY



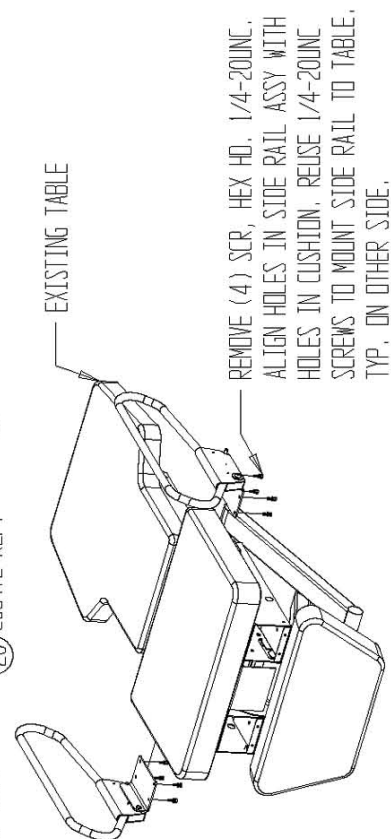
# OPTIONAL PAPER DISPENSER ASSEMBLY

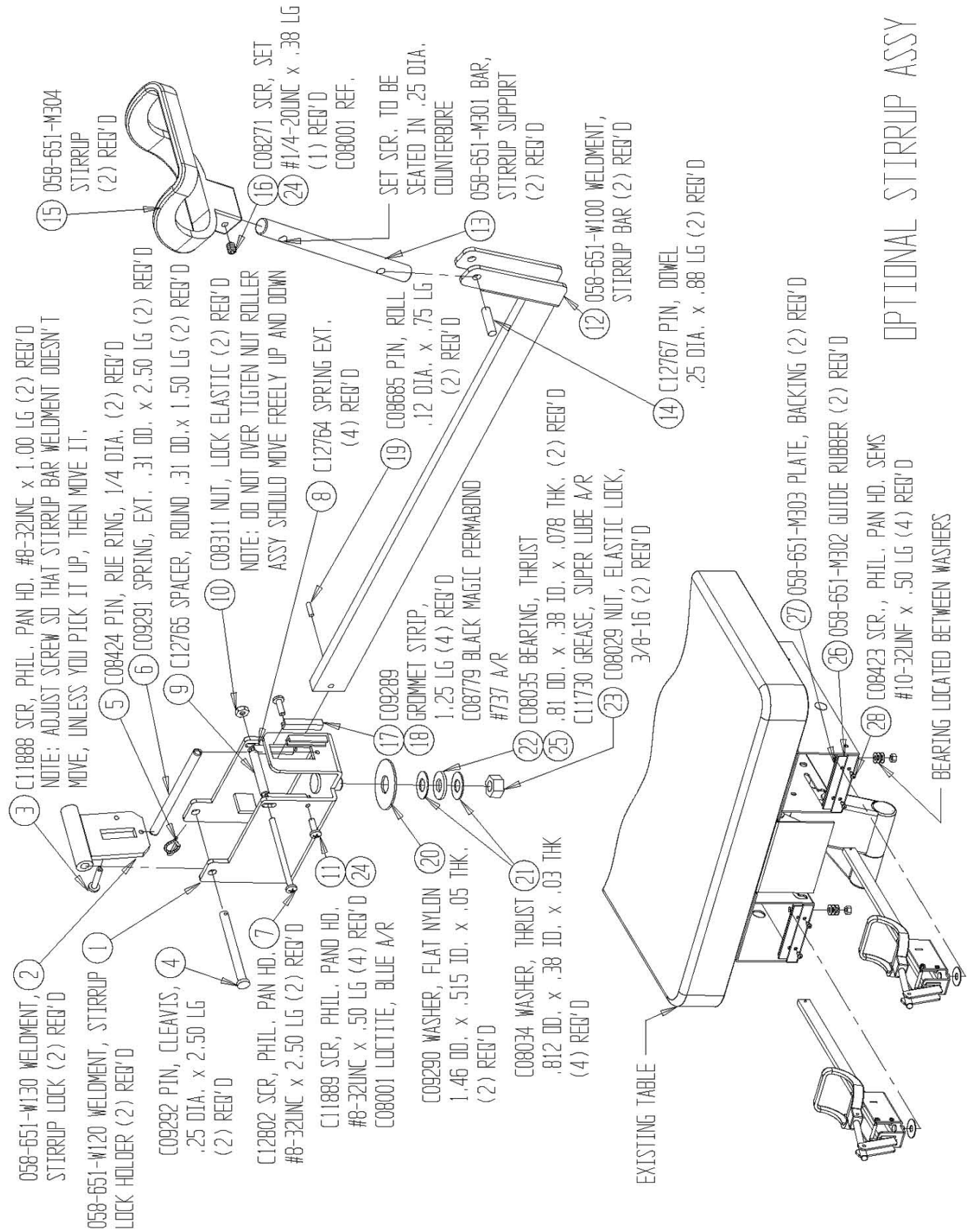




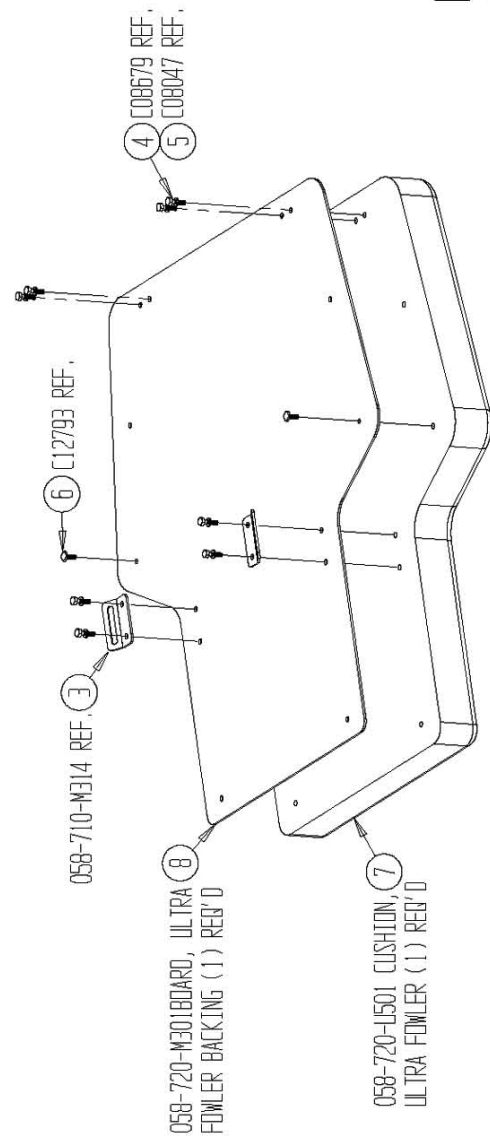
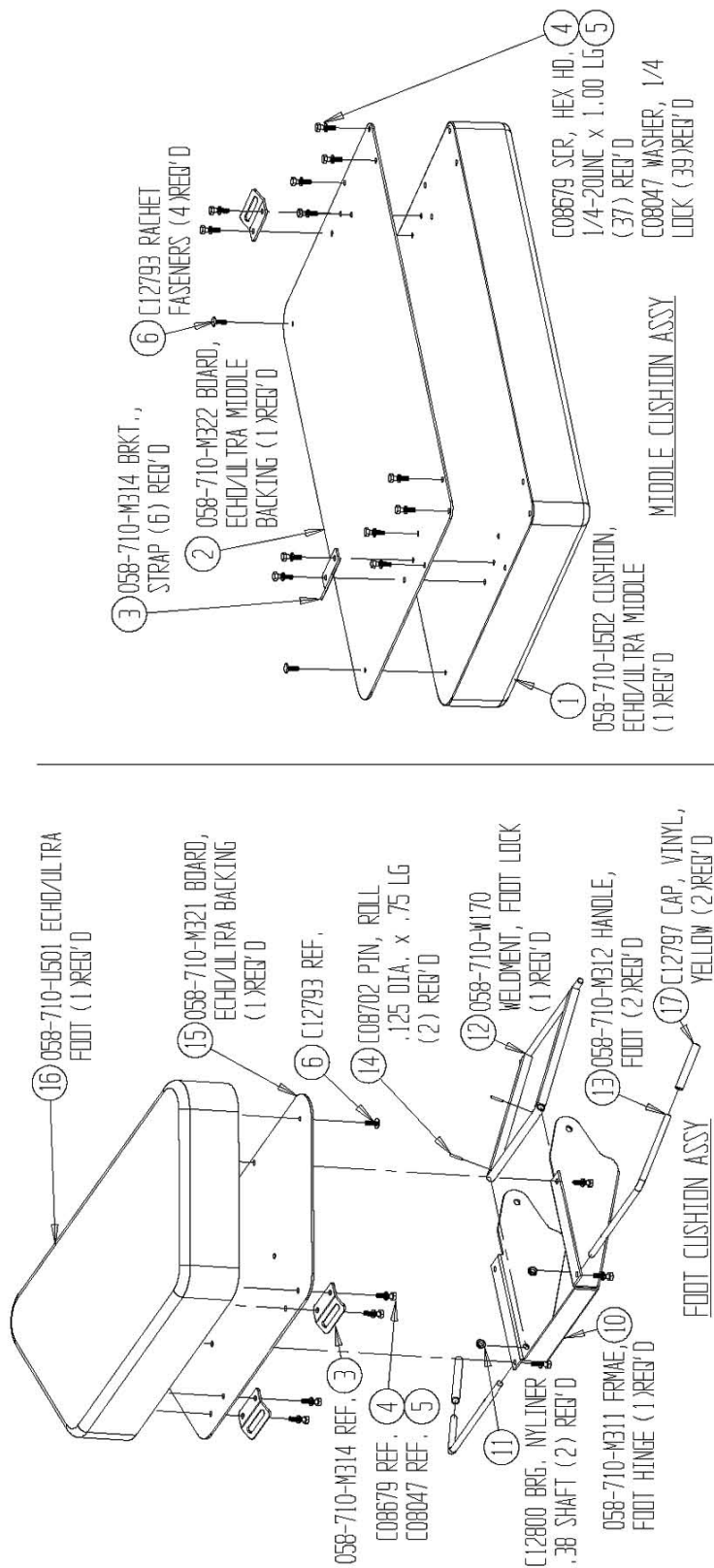


## OPTIONAL SIDE RAIL ASSY



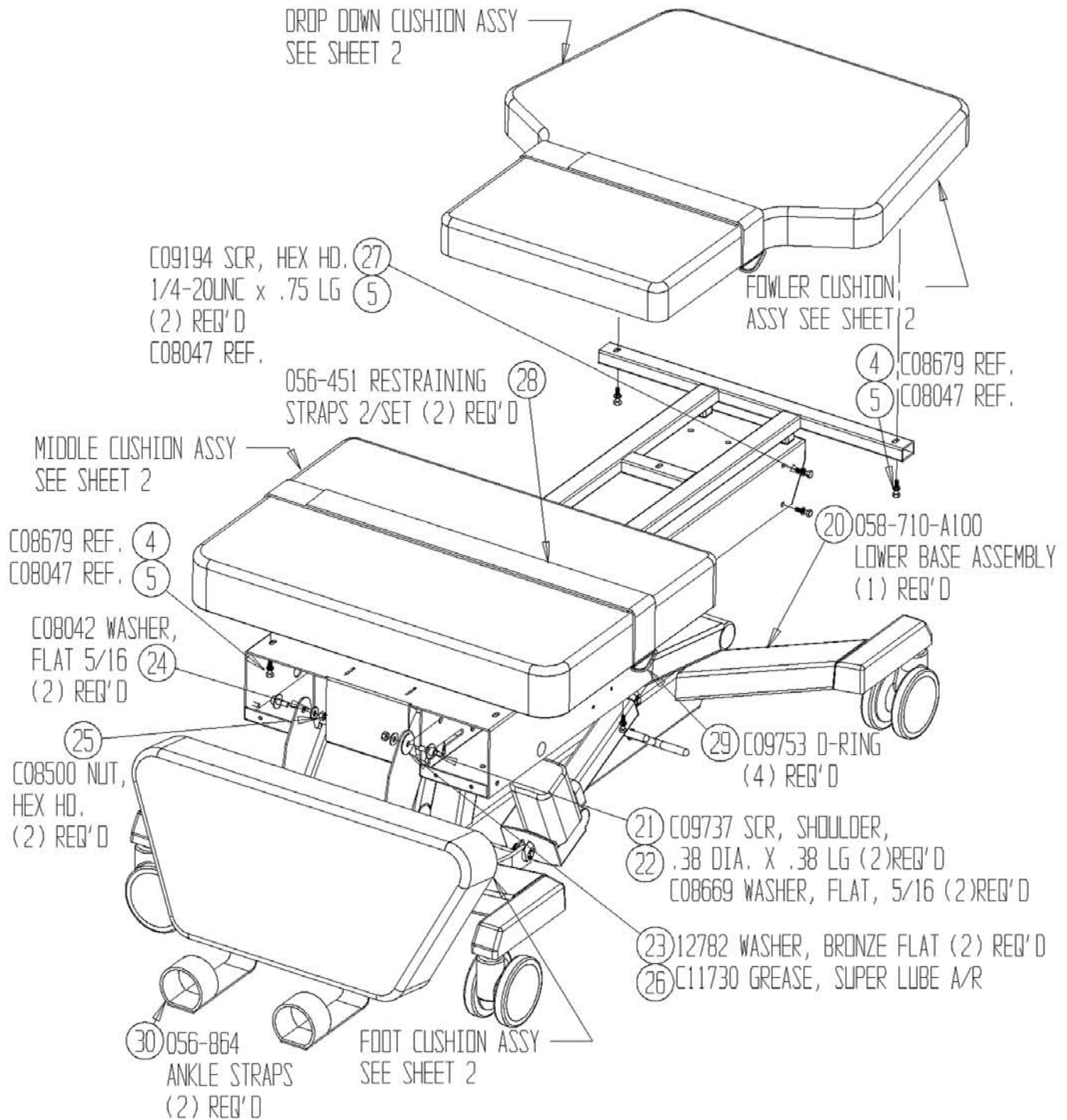


## OPTIONAL STIRRUP ASSY





# ULTRA PRO ASSEMBLY



# BIODEX

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